

sive mechanism. This is often true when he comes in contact at the bedside with a young man fresh from college, and the latter glibly mentions a brand-new test or reaction, applicable or not to the case in hand, as the supreme and final diagnostic recourse. Stimulating, to be sure. Yet one cannot help wondering whether the sick did not have at least as good a chance before the laboratory gained its present ascendancy.

The clinical management of disease is invariably an individual problem. The practice of medicine can never rightly be considered an exact science until all the mysteries of physiology have been cleared away, and all the intricacies of pathologic processes classified and correctly evaluated. This happy end is not yet in sight; the final word as to the nature and maintenance of life remains to be said. In the meantime the application of remedies to the cure of disease must continue to be more art than science. Judgment, necessarily based to some extent on empiricism, must continue to be the chief reliance.

It is well, therefore, that the physician should keep his feet planted firmly on the solid ground. The enthusiasm which finds expression in the modern tendency to specialism is not devoid of very real danger. When interest and attention are concentrated on a certain restricted anatomic region or group of symptoms, the broad, comprehensive conclusions upon which success and safety depend become difficult, if not impossible.

True progress is not promoted either by a limited outlook or a cock-sure attitude. Better build slowly of seasoned materials that have been proved durable than throw up a hasty structure, however comely, that may soon sag into lop-sidedness or crumble in total collapse.

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#### GLUCOSE TREATMENT IN METHEMOGLOBINEMIA

Experiments<sup>1</sup> with animals which have received  $\text{NaNO}_2$  in order to produce methemoglobin *in vivo*, show that injections of glucose immediately reduce the methemoglobin to hemoglobin, which can then be oxygenated to oxyhemoglobin, and the normal process of respiration continued. If glucose is injected before  $\text{NaNO}_2$ , methemoglobin formation is prevented. This was shown with rabbits and rats. Rabbits required a larger dose of  $\text{NaNO}_2$  to demonstrate the methemoglobin formation owing, unquestionably, to the higher blood sugar in rabbit blood. This offers an explanation for the oft-repeated comment in the literature that rabbits are not fit subjects for experiments where methemoglobin is desired.

In the blood stream, glucose tends to produce an oxidation-reduction potential, too negative to permit of the existence of methemoglobin.

It is suggested, therefore, that in cases of poisoning by substances such as acetanilid,<sup>2</sup> some anilin dyes, nitrites, and other substances which produce methemoglobin in the blood, injections of glucose be administered. In the animal experiments, one cubic centimeter of one per cent of glucose in .9 per cent NaCl per kilogram body weight were given. It is suggested, however, that a smaller quantity of solution containing more concentrated glucose be used. An isotonic solution of glucose in distilled water is 5.5 per cent.

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#### ON THE DIFFERENTIAL DIAGNOSIS OF VOLVULUS FROM OTHER FORMS OF ACUTE MECHANICAL OBSTRUCTION OF THE SMALL INTESTINE

In addition to obstruction of the intestinal canal, which it has in common with other forms of mechanical obstruction, volvulus has the added feature of circulatory obstruction. Because of this feature early symptoms referable to the circulatory obstruction may entirely mask the symptoms referable to a shutting-off of the intestinal lumen—a fact which has been impressed on the writer by several cases submitted to autopsy within the past six months. A study of the cases involved makes several points in the differential diagnosis clear.

Volvulus may, or may not have been preceded by previous laparotomy or signs of chronic partial intestinal obstruction; but when the torsion known as volvulus occurs, it is productive of *sudden* pain. The pain is *excruciating* and *continuous* (may fluctuate in intensity), and may be described by some as "throbbing." For degree of severity the pain of volvulus is comparable with the pain of a ruptured gastric ulcer, but it is not accompanied by really notable abdominal rigidity. Patients may have a peculiarly accurate sense of position of the involved area. The lack of abdominal rigidity has probably been the factor responsible for surgical delay in many cases. By the time the classical symptoms of intestinal obstruction have developed, the involved intestine is gangrenous and usually cannot be resected. Peritonitis is likely present and an early demise probable. Because of the toxemia associated with intestinal gangrene, death not infrequently occurs within seventy-two hours of the onset; hence surgical intervention, to be successful, must be instituted early. The general tendency, when doubt exists, to wait for developments is a fatal policy when volvulus is present. The anomaly of excruciating abdominal pain, with a disproportionate lack of rigidity, should always cause volvulus to be considered in differential diagnosis.

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<sup>1</sup> Brooks, M. M.: Preliminary, Proc. Soc. Exp. Biol. and Med., 31:1134, 1934; 32:63, 1934. Complete, Amer. Jour. Physiol. Process of publication.

<sup>2</sup> Kruse, T. K., McElroy, W. S., and Guthrie, C. C.: Jour. Pharm., 31:208, 1927. McElroy, W. S., Jour. Amer. Med. Assoc., 73:1919, 1927.